

U.S. Patent Application Serial No. 09/643,912

REMARKS

As indicated above, this is a Substitute to the Response filed on August 4, 2003.

Claims 5-8 remain in this application, of which claim 5 has been amended, and claims 1-4 have been canceled in order to more particularly point out and distinctly claim the subject matter to which the Applicants regard as their invention.

Claim Rejections under 35 USC §103

Claims 5-8 stand rejected under 35 USC §103(a) as being unpatentable over Tsuzuki et al. (U.S. Patent No. 5,801,499) in view of Tomisawa (U.S. Patent No. 5,606,855).

Applicants respectfully traverse this rejection.

In the primary reference Tsuzuki, there is a clear showing of a catalyst temperature sensor 17 in Figure 1. The presence of this catalyst temperature sensor 17 is specifically relied upon in the flowchart as shown in Figure 3, step 13 to determine whether the catalyst temperature is greater than a specific lower limit. Depending upon the outcome of this determination, two distinctly different courses will be taken. Therefore, it is apparent that in the view of Tsuzuki, a precise indication of the temperature of a catalyst is of vital importance in determining a correct course of action to be taken.

In the secondary reference Tomisawa, there is a specific teaching of not using a catalytic temperature sensor to determine the temperature of a catalytic converter. Substitute therefor is a water temperature sensor that can also be used to estimate a temperature of the catalytic converter. As it is well recognized by a skilled person in the art, an estimation is inherently not as accurate and not as reliable as an actual measurement. Frequently, estimations are used only if they fall within an

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acceptable margin of error. Therefore, errors are always part of any estimation.

In making estimations, specific assumptions about various operating conditions also need to be made. At any moment in time any assumptions deviate from actual operating conditions, any estimations derived therefrom would become unreliable and inaccurate.

In addition to taking these issues into consideration, Tomisawa has also noted that "it is difficult to determine the optimum location for the temperature sensor and to accurately detect the activated condition of the catalytic converter from the temperature sensor output." For the Tomisawa device to function correctly, a determination of an optimum location for the temperature sensor to be installed so as to accurately detect the activated condition of the catalytic converter is very important. Therefore, Tomisawa does not merely teach removing a catalytic converter temperature sensor and simply rely upon an estimation provided by a water temperature sensor, but Tomisawa also teaches that where to strategically place the water temperature sensor is also of critical importance.

Asserting the disclosures and teachings of Tsuzuki and Tomisawa, the Examiner concluded that it would have been obvious to one having ordinary skill in the art at the time the invention was made to combine Tsuzuki and Tomisawa, under the motivation that it "would have saved cost and lowered the complexity of the apparatus."

Applicants respectfully disagree.

In the outstanding Office Action, there is no mentioning of where an optimum location is located at in the engine of Tsuzuki so that the temperature sensor can accurately detect the activating condition of the catalytic converter. However, the outstanding Office Action has positively

coolant
temp
in
Tomisawa

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suggested removing the perfectly workable catalyst temperature sensor 17 from catalyst 16 of Tsuzuki. This would render Tsuzuki inoperable. In this regard, MPEP 2143.01 has specifically stated that:

"[i]f proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)."

Therefore, the claimed invention is not rendered obvious by the asserted prior art combination rejection.

It should also be noted that, in the present invention, when the temperature of the catalyst is low, the engine is driven so as to increase the exhaust temperature (by performing the electric power generation) to warm the catalyst.

In a hybrid vehicle, the output from the engine is efficiently used so that the energy is collected by the electric power generation. However, Tsuzuki stops the supply of fuel to stop combustion in the engine when the engine is in the idling state. Tsuzuki does not disclose increasing the catalyst temperature by the combustion in the engine, as in the present invention.

In the interest of advancing the prosecution of the present invention, independent claim 5 has been amended to include a catalyst temperature sensor. By so amending, even if the combination rejection is valid, which it is not, the present invention will not result, because a catalyst temperature sensor would be lacking in Tsuzuki.) ← ?

Thus, the §103(a) rejection should be withdrawn.

In view of the aforementioned amendments and accompanying remarks, claims 5-8, as

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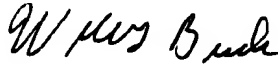
amended, are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

ARMSTRONG, WESTERMAN & HATTORI, LLP



William L. Brooks
Attorney for Applicants
Reg. No. 34,129

WLB/lrj
Atty. Docket No. 001062
Suite 1000
1725 K Street, N.W.
Washington, D.C. 20006
(202) 659-2930



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